Abstract of the Disclosure

A SOVA decoding method determines, for each information symbol time and each state of a decoding trellis, a vector of probabilities for each possible symbol value in accordance with transition path probabilities for reaching the state with respective information symbol values and probability vectors for the states at the previous information symbol time from which the state can be reached, and also determines a total probability for each state. A soft output is provided by summing probabilities for corresponding symbol values all states of the trellis at an information symbol time relating to the start of the vectors, corresponding to a desired survivor path length. The vectors can comprise probability ratios instead of probabilities to reduce storage especially for binary signal decoding, and logarithmic probabilities or ratios can be used to simplify computation.